

Mecklenburg County Common Code Defects

Electrical

Code Defects

Properly install smoke detector Boxes

Code Description

FPN: Reference the North Carolina Building Code for Group classifications.

210.71 Single- and Multiple-station smoke alarms. Listed single- and multiple-station smoke alarms shall be installed in accordance with the provisions of this code and the household fire warning equipment provisions of NFPA 72.

(A) Where required. Single- or multiple-station smoke alarms shall be installed in the locations described in Sections 210.71(A)(1) through 210.71(A)(5).

(1) Group R-1. Single- or multiple-station smoke alarms shall be installed and maintained in all the following locations in Group R-1:

- a. In sleeping areas.
- b. In every room in the path of the means of egress from the sleeping area to the door leading from the guestroom or suite.
- c. In each story within the guestroom or suite, including basements. For guestrooms or suites with split-levels and without an intervening door between adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

(2) Groups R-2, R-3, -R-4 and I-1. Single- or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4, and I-1, regardless of occupant load at all the following locations:

- a. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.
- b. In each room used for sleeping purposes.
- c. In each story within a dwelling unit, including basements and cellars but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split-levels and without an intervening door between the

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adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

(3) Group I-1 Single- or multiple-station smoke alarms shall be installed and maintained in sleeping areas in occupancies in Group I-1. Single- or multiple-station smoke alarms shall not be required where the building is equipped throughout with an automatic fire detection system in accordance with Section 907.2.6 of Volume I, General Construction.

(4) One- and Two-Family Dwellings. Single- or multiple-station smoke alarms shall not be required where the dwelling unit is protected by an approved smoke detection system in accordance with NFPA 72.

(5) Additions, alterations or repairs to Group R. Where an addition, alteration or repair to an individual dwelling unit or guestroom in Group R requires a permit, smoke alarms shall be installed within that individual dwelling unit or guestroom in accordance with this section. Where one or more sleeping rooms are added or created in an existing Group R, smoke alarms shall be installed in accordance with this section.

Exception: *Repairs to the exterior surfaces of occupancies in Group R are exempt from the requirements of this section.*

(B) Power source. In new construction, required smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source and shall be equipped with a battery backup. Smoke alarms shall emit a signal when the batteries are low. Wiring shall be permanent and without a disconnecting switch other than as required for overcurrent protection.

Exceptions:

- 1. Smoke alarms are not required to be equipped with battery backup in Group R-1 where they are connected to an emergency electrical system.*
- 2. Smoke alarms are permitted to be solely battery operated in existing buildings, buildings not served from a commercial power source and in existing areas where alterations or repairs regulated by Section 210. 71(A)(5) do not result in the removal of interior wall or ceiling finishes exposing the structure.*

(C) Interconnection. Where more than one smoke alarm is required to be installed within an individual dwelling unit in Group R-2, R-3, or R-4, or within an individual guestroom or suite in Group R-1, the smoke alarms shall be interconnected in such a manner that the activation of one alarm will activate all the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

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Exceptions:

1. Smoke alarms that are permitted to be solely battery operated in accordance with Section

210.71(B) are not required to be interconnected.

2. Smoke alarms in existing areas are not required to be interconnected where alterations or repairs regulated by Section 210. 71(A)(5) do not result in the removal of interior wall or ceiling finishes exposing the structure.

(D) Acceptance testing. When the installation of the alarm devices is complete, each detector and interconnecting wiring for multiple-station alarm devices shall be tested in accordance with the household fire warning equipment provisions of NFPA 72.

Disclaimer: There may be other ways to comply with the Code. If so, you are not required to use this method to comply with the Code. You may want to investigate other options, or consult with a design professional identifying an equally code compliant solution.

End Notes

National Electrical Code

National Electrical Code Committee and National Fire Protection Association Inc.

Anaheim, CA August 2, 2001